National Institute of Environmental Health Sciences

Long-term effects of flooding on mortality in England and Wales, 1994-2005: Controlled interrupted time-series analysis

Author(s): Milojevic A, Armstrong B, Kovats S, Butler B, Hayes E, Leonardi G, Murray V, Wilkinson P

Year: 2011

Journal: Environmental Health : A Global Access Science Source. 10 (1): 11

Abstract:

BACKGROUND: Limited evidence suggests that being flooded may increase mortality and morbidity among affected householders not just at the time of the flood but for months afterwards. The objective of this study is to explore the methods for quantifying such long-term health effects of flooding by analysis of routine mortality registrations in England and Wales. METHODS: Mortality data, geo-referenced by postcode of residence, were linked to a national database of flood events for 1994 to 2005. The ratio of mortality in the post-flood year to that in the pre-flood year within flooded postcodes was compared with that in non-flooded boundary areas (within 5 km of a flood). Further analyses compared the observed number of flood-area deaths in the year after flooding with the number expected from analysis of mortality trends stratified by region, age-group, sex, deprivation group and urban-rural status. RESULTS: Among the 319 recorded floods, there were 771 deaths in the year before flooding and 693 deaths in the year after (post-/pre-flood ratio of 0.90, 95% CI 0.82, 1.00). This ratio did not vary substantially by age, sex, population density or deprivation. A similar post-flood 'deficit' of deaths was suggested by the analyses based on observed/expected deaths. CONCLUSIONS: The observed post-flood 'deficit' of deaths is counter-intuitive and difficult to interpret because of the possible influence of population displacement caused by flooding. The bias that might arise from such displacement remains unquantified but has important implications for future studies that use place of residence as a marker of exposure.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3042000

Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Researcher

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Human Conflict/Displacement

Extreme Weather Event: Flooding

Geographic Feature:

resource focuses on specific type of geography

Rural, Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : England

Health Impact:

specification of health effect or disease related to climate change exposure

Injury

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly, Low Socioeconomic Status

Resource Type:

format or standard characteristic of resource

Research Article

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content